

Application No.: 10/052,838

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Docket No.: 393032030500

REMARKS

Claims 1, 2, 4-12, 14-18, 20-28, 30-34, 36-44 and 46-48 are currently pending in the present application. Applicants note with appreciation the allowance of claims 7, 23 and 39 and the indication of allowable subject matter with respect to claims 8, 10, 24, 26, 27, 40 and 42. With entry of this Amendment, Applicants amend claim 4, 7, 8, 10, 12, 20, 23, 24, 26, 36, 39, 40 and 42. Reexamination and reconsideration are respectfully requested.

Amendments

Applicants have made amendments to the claims to either correct informalities or place dependent claims having allowable subject matter in independent form. Given that these amendments do not require any further search or consideration, Applicants respectfully request their entry after final.

Specifically, Applicants have amended dependent claims 4, 20 and 36 to correct an informality, i.e., adding the word "said" before waveform.

Applicants have amended claims 7, 12, 23 and 39 to recite "exhibits" as opposed to either "is to exhibit" or "is exhibits."

Applicants have amended claims 8, 10, 24, 26, 40 and 42 to place them in the independent form. Accordingly, it is believed that claims 8, 10, 11 (which depends from claim 10), 24, 26, 27 (which depends from claim 26), 40, 42 and 43 (which depends from claim 42) are in condition for allowance.

Response to Rejection based on Yun and Choi

The Examiner rejected claims 1, 2, 4-6, 9, 12, 14-18, 20-22, 25, 28, 30-34, 36-38, 41, 44 and 46-48 under § 103(a) as being unpatentable over Yun in view of Choi.

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Applicants note with appreciation the courtesy of the Examiner during the telephone interview on February 13, 2007 with Applicants' representative. The present invention relates to determining a modulation technique employed in an information carrying signal. This is better understood in the context of exemplary Fig. 1. Fig. 1 at the top illustrates MIDI music data codes being input into a MIDI data converter 11 of data recorder 10. The converter produces a base band signal that is input to modulator 12. Modulator 12 employs a modulation technique to produce an audio-frequency signal. As described in the specification at pages 15 and 16, different manufacturers perform different modulation techniques. The audio frequency signal is then converted into a digital audio signal by recorder 13 and stored into a track of compact disc 22.

The track can be reproduced by data reproducer 30 which has demodulating unit 30A and a discriminator 100. The digital audio signal is first demodulated to an audio frequency signal (not shown in Fig. 1) and input into the data reproducer 30. The discriminator analyzes the audio-frequency signal and determines the modulation technique employed by the modulator 12. It then supplies a controlling signal to the demodulator 31 representative of the detected modulating technique to demodulate the signal and ultimately output it to the tone generator. In this way, a reproducer having the above discriminator can reproduce a performance from a compact disc from any manufacturer, because it can determine the modulation technique employed and demodulate the signal accordingly.

Claim 1 is directed to a discriminator. It recites an analyzer that analyzes an information carrying signal and a judging unit that, based on the evaluation of the analyzer, determines "the sort of modulation technique employed in said information carrying signal"

As discussed during the telephone interview, neither Yun nor Choi discloses determining the modulation technique employed in an information carrying signal.

Yun discloses an apparatus that determines whether an audio signal is either a vocal sound or a musical sound. At page 2 of the Office Action, the Examiner cites to Col. 4, lines 18-23 of Yun as describing the determination of a modulation technique employed in an information

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carrying signal. Col. 4, lines 18-22 provide: "The final decision circuit 30 systematically analyzes a plurality of the decision signals produced by the decision units so as to discriminate the audio signal as *the vocal or musical sound.*" (Emphasis added) Thus, Yun merely teaches a circuit that analyzes the audio signal to determine the source of the sound, i.e., whether the sound is produced by a human being (a vocal sound) or whether the sound is produced by a musical instrument (a musical sound). There is no disclosure or suggestion in Yun of determining a modulation technique employed on the audio signal. Stated differently, Yun merely determines what the source of the signal is, but does not determine how (if at all) the signal has been modified. Indeed, there is no suggestion or disclosure in Yun of a modified signal at all as it simply discloses that the apparatus receives "an audio signal" at Col. 4, line 10.

Choi is directed to a karaoke-type reproduction apparatus which reproduces background images and text in synchronicity with a song that is being simultaneously reproduced. The Examiner cites to Col. 16, line 30 through Col. 17, line 55 at page 4 of the Office Action. The cited section relates to an operation of a field distinguisher 204. Col. 16, lines 30-46 provide:

The field distinguisher 204 comprises a discriminator 220, a selector 222 and a pulse generator 224. The discriminator 220 inputs the leading edge detection signal VSYP and an internal reference signal HLDE (Fig. 17) and *discriminates between odd and even fields* based on the leading edge detection signal VSYP and the internal reference signal HLDE. Specifically, the reference signal HLDE has a predetermined period and is low during the mid point of a horizontal period. Therefore, *during an odd field*, the edge detection signal VSYP and the vertical sync signal Vsync become low *during a high pulse 238 (Fig. 17) of the internal reference signal HLDE*. On the other hand, *during an even field*, the edge detection signal VSYP becomes low *during the [sic] a low pulse 240 (Fig. 17) of the internal reference signal HLDE*. After determining the [sic] whether the field is even or odd, the discriminator 220 outputs a corresponding odd/even signal. (Emphasis added.)

In the above quoted passage, Choi merely teaches a discriminator technique for determining an odd field or even field. The discrimination is carried out based on the potential level reference signal HLDE, but the object of the circuit is to detect the field and not any modulation technique.

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Accordingly, Applicants respectfully submit that claim 1 is patentable over Yun and Choi.

For at least the same reasons as set forth above, Applicants submit that independent claims 12, 17, 28, 33 and 44 are patentable over Yun and Choi.

Applicants respectfully submit that the dependent claims 2, 4-6, 9, 14-16, 18, 20-22, 25, 30-32, 34, 36-38, 41 and 46-48 are likewise patentable over Yun and Choi for at least the reasons set forth above.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

If, for any reason, the Examiner finds the application other than in condition for allowance, Applicants request that the Examiner contact the undersigned attorney at the Los Angeles telephone number (213) 892-5630 to discuss any steps necessary to place the application in condition for allowance.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, Applicants petition for any required relief including extensions of time and authorize the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing Docket No. 393032030500.

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Respectfully submitted,

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